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CAL  
38-SANFRA,  
216 -

YERBA BUENA ISLAND SUBSTATION  
(Key System Electrical Substation - Yerba Buena Island)  
(Island Railway Substation)  
San Francisco-Oakland Bay Bridge System  
Adjacent to north side of bridge on Yerba Buena Island  
San Francisco  
San Francisco County  
California

HAER No. CA-229

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
Western Region  
Department of the Interior  
San Francisco, California

# HISTORIC AMERICAN ENGINEERING RECORD

## YERBA BUENA ISLAND SUBSTATION (Key System Electrical Substation) (Island Railway Substation)

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**Location:** San Francisco- Oakland Bay Bridge System, Yerba Buena Island, City and County of San Francisco, California.

Situated north of the lower deck of the San Francisco- Oakland Bay Bridge, north of the tunnel's east portal, between the Bridge roadway and the westbound on-ramp to the bridge. UTM Zone 10: 556050, 4185840, USGS 7.5 Quad Oakland West, 1959 (rev.1980)

**Significance:** This small building was constructed as an electrical substation for the Key System trains that originally ran on the Bay Bridge, from Oakland to the Transbay Terminal in San Francisco. It was a vital component of the Bay Bridge. Although electric trains no longer run on the bridge, this building has retained its original use as an electrical substation and its association with the historic bridge. The building also possesses a high degree of integrity, with alterations limited to replacement of the electrical equipment that it contains. The building is therefore eligible for National Register listing as a contributing component of the Bay Bridge.

**Description:** This one story building is a rectangular concrete box, approximately 50 feet long (east to west) by 36 feet wide. It has an entrance on the south side, but no fenestration on the other three walls. The exterior walls have an indentation near the top, forming a narrow ledge around the perimeter of the building. There is a second indentation where the roof slab meets the walls. This minor design feature relates the building visually to the concrete piers of the Bay Bridge and the columns of the bridge's west approach, many of which have similar indentations. There is a larger building of similar design in the city of San Francisco, adjacent to the ramp that originally carried Key System trains from the Bay Bridge west approach ramps to the Transbay Terminal. To the immediate east is a small garage which was also built as a service facility for the bridge.

### Historical Context:

This building was designed in 1937 by the Board of Consulting Architects for the San Francisco- Oakland Bay Bridge. The board consisted of Timothy L. Pflueger, Chair, Arthur Brown Jr., and John J. Donovan, three very prominent Bay Area Architects. The building was constructed as an integral component of the San Francisco- Oakland Bay Bridge. Electric train service on the Bay Bridge, for which this building was constructed, began in 1939. When the railroad tracks were removed after 1958, the building was converted to use as an electrical substation for lighting, fog horns, and other electrical needs on the bridge.

### Sources:

Bibliography:  
State of California Department of Parks and Recreation Primary Historic Resource Record and Building, Structure, and Object Record (DPR523A, B and J) prepared by Andrew Hope, Caltrans District 4 (Oakland) located at the Caltrans Office, 111 Grand Avenue, Oakland, California

**YERBA BUENA ISLAND SUBSTATION**  
**(Key System Electrical Substation, Island Railway Substation)**  
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**Project Information:**

This structure is being documented as part of the environmental impact study for the proposed seismic retrofit of the San Francisco- Oakland Bay Bridge because the building has been determined potentially eligible for the National Register of Historic Places and because of its close proximity to the existing bridge retrofit project. Architectural data form prepared by Geraldine Peterson, Architectural Historian, 9/1/1998 under Recordation of the San Francisco- Oakland Bay Bridge, California Department of Transportation (Caltrans), Contract Number 040069, Hansen-Murakami-Eshima, Consultants, Dan Peterson AIA, and Associates, Inc, HAER Consultant.

**Supplemental Information:**

Island Railway Substation General Arrangement, December 20, 1937, RY-10.  
From the Fifth Annual Report to the Bridge Authority, 1938, page 54,

“Substations

Three substations, one at Sterling Street on Rincon Hill, San Francisco; the second on Yerba Buena Island, east of the tunnel; and the third at the west end of the East Bay yard are designated respectively as the Sterling, Island, and Mole Substations. The Sterling and Mole substations are being built on property belonging to the State, and the Island substation is within the right of way lines of the ‘joint permit’ from the United States Government to the State. They are being built and financed by the Pacific Gas and Electric Company and sold to the railroads on an installment basis.”